Los Alamos National Laboratory **Environmental Restoration Program** Standard Operating Procedure	No: LANL-ER-SOP-06.11 Rev: 0

Stainless Steel Surface Soil Sampler

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STAINLESS STEEL SURFACE SOIL SAMPLER

1.0 PURPOSE

This standard operating procedure describes the use of a surface soil ring sampler, for the Environmental Restoration (ER) program.

2.0 SCOPE

2.1 Applicability

This standard operating procedure applies to all personnel who collect surface soil samples for the ER program.

2.2 Training

All field team members involved with this procedure must document that they have read and understand this procedure, and the procedures in Section 1.0, General Instructions.

3.0 DEFINITIONS

A. Surface Soil Ring Sampler: A sampler constructed of machined stainless steel. It has thin walls but is strong enough to withstand the force of being driven into the ground with a 10-pound drive hammer. The rings are typically 3 to 4 inches in diameter and 2 to 8 inches long.

4.0 BACKGROUND AND/OR CAUTIONS

The surface soil ring sampler is used for undisturbed soil samples or for when accurate or precise control of the collection depth or volume of a soil sample is required.

5.0 EQUIPMENT

Equipment required to implement this procedure is listed in Attachment A.

6.0 PROCEDURE

A. Coordinate the sampling effort with the Sample Coordination Facility (SCF). The SCF will give guidance regarding sample containers, preservation and shipment to the SCF.

B. Gather and decontaminate the necessary supplies and equipment (SOP-02.07, General Equipment Decontamination).

C. Assemble the sampler.

D. Remove any undesired surfical material from the sample location. Drive the sampler into the ground until the top touches the ground surface. Using the gardener's trowel, dig the soil from around the ring. Next, dig a hole beside the ring that is large enough to accomodate the ring sampler trowel. Slide the ring sampler trowel under the ring sampler keeping it tight against the bottom of the ring sampler. With the trowel underneath, lift the ring sampler out of the ground.

E. For the physical analysis of an undisturbed sample, transport the sample in the ring. For chemical analysis break up the sample with the spoon or scoop and containerize it. Consult the SCF and SOP-01.02, Sample Containers and Preservation, for guidance regarding the type of sample container, holding time, and preservation techniques to be used.

F. Label sample containers and complete documentation (SOP-01.04, Sample Control and Field Documentation).

G. Whenever a sample is collected, describe the location and sample using the Location Information and Borehole Log (Soil) forms provided in SOP-06.12.

H. Make sure all sampling locations are properly staked and the sample ID is readily visible on the location stake.

I. Decontaminate the equipment. Pack samples and ship them to the SCF. Return all supplies and equipment to their proper storage location.

7.0 REFERENCES

The following procedures are directly related to this procedure and should be reviewed before field operations:

LANL-ER-SOPs in Section 1.0, General Instructions.
LANL-ER-SOP-02.07, General Equipment Decontamination.
LANL-ER-SOP-06.12, Soil and Rock Borehole Logging and Sampling Methods.

Soiltest Environmental Division, 1986. "Test Instrumentation and Equipment." Soiltest Environmental Division report, Evanston, IL.

8.0 RECORDS

A. Completed Chain-of-Custody/Request for Analysis Form.

B. Completed Borehole Log (Soil) Form.

C. All pertinent information will be included on the Daily Activities Log found in SOP 01.04.

9.0 ATTACHMENTS

A. Equipment and Supplies Checklist for the Stainless Steel Surface Soil Sampler

**EQUIPMENT AND SUPPLIES CHECKLIST
FOR THE STAINLESS STEEL SURFACE SOIL SAMPLER**

_____ Stainless steel ring sampler

_____ Stainless steel trowel

_____ Stainless steel sampler top

_____ Drive hammer (3 lbs or 10 lbs)

_____ Gardener's trowel

_____ Plastic sheets or stainless steel sampling trays

_____ Decontamination solutions and distilled water

_____ Brushes (long-handled scrub or wire)

_____ Galvanized tub

_____ Trash bags

_____ Buckets (galvanized, stainless steel, and plastic)

_____ Garden pressure sprayer

_____ Cleaning wipes

_____ Kim wipes

_____ 55-gallon drums

_____ Teflon™ or stainless steel scoop or spoon

_____ Borehole Log (Soil) Forms

_____ Daily Activity Logs

_____ Chain-of-Custody/Request for Analysis Forms

_____ Sample Collection Logs

_____ Variance Logs

_____ Custody Seals

_____ Unique Sample Stickers

_____ Sample Labels

_____ Any additional supplies listed in associated procedures